

***CORONA DIVISION
NAVAL SURFACE WARFARE CENTER***



**CORON
A
IUID Center**

951.273.4624

MAKING SEA POWER 21 A REALITY

Serialized Item Management (SIM)

**NSWC Corona
Product Engineering Department
April 2010**

OVERVIEW

- **What is SIM?** (and how is it different from other things?)
- **Motivation** (why should we care)
- **Policy stuff**
- **An example**

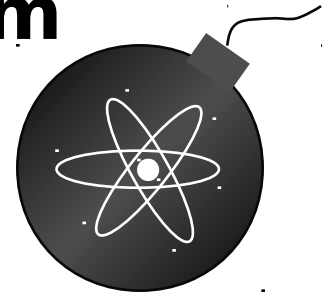
Serialized Item Management

Three choices in the management business:

➤ **Manage by count**



➤ **Manage each individual item**



➤ **Don't manage**



Serialized Item Management

Managing attributes of individual items

- Maintenance History
- Accountability
- Configuration
- Condition
- Warranty
- Location
- Contract
- Cost
- Lot

Answering the big questions


- What stuff needs fixing?
- What stuff is good to go?
- What do we need to buy?
- When do we need to buy?
- Can we go to war?

...and win?

What Wins a War?

- **All things being even, will lead to a draw**

- **To win you must have an advantage**
 - **Superior technology**
 - **Superior training**
 - **Superior tactics**
 - **Superior manpower**
 - **Superior resources**
 - **Superior logistics**



SIM

If it ain't broke...



Some will say the old ways still work.

Some will say we don't need to change.

Because the world changes,
we must change.

Because the world changes;
what worked yesterday, will

Yesterday's asset
management must
change to prevail
in today's warfare.



Is Anyone Serious About SIM?



Department of Defense **INSTRUCTION**

NUMBER 4151.19

December 26, 2006

USD(AT&L)

SUBJECT: Serialized Item Management (SIM) for Materiel Maintenance

1. PURPOSE

Under the authority in Reference (a), this Instruction establishes a serialized item management program where the Military Departments and Defense Agencies:

- 1.1. Identify populations of select items (parts, components, and end items).
- 1.2. Mark all items in each population with a unique item identifier (UII).
- 1.3. Generate, collect, and analyze maintenance, logistics, and usage data about each specific item.



1.1. Identify populations of select items

6.2. Military Departments and Defense Agencies will identify populations of select uniquely identified items to track and manage within their maintenance SIM programs. Selection of these populations shall be based on the magnitude of potential benefits to DoD maintenance operations. This identification will be based on the benefits of enhancing weapon system operations, management capabilities, and increasing information availability. As a minimum, it is appropriate to select item populations from within the following categories:

6.2.1. Repairable items down to and including sub-component repairable unit level.

6.2.2. High cost, high demand consumable items.

6.2.3. Life-limited, time-controlled, flight/operationally critical items, or items with records (logbooks, aeronautical equipment service records, etc.).

General guidance established - Departments tailor their SIM policy

SIM in the DON

DEPARTMENT OF THE NAVY

SERIALIZED ITEM MANAGEMENT STRATEGY

Submitted to:

Deputy Under Secretary of Defense
for
Logistics and Material Readiness
Washington, D.C. 20301



**Submitted July
2009**

SIM Policy becomes

**more refined but
leaves
the DONED
enterprise CORSYSCOM
to tailor their SIM
policy NAVFAC**

- NAVSEA
- NAVSUP
- SPAWAR



Goals of the DON SIM Strategy

- **Increase capability**
 - **Doing things we could not do before**
- **Improve capability**
 - **Doing things we already do...but better**
- **Save money**

Data Is Not Cheap

1) Data Capture

This is not the problem any longer

Machine readable marks

2) Data Storage -media

Data accuracy leads to

- Less data scrubbing
- More fidelity in analysis

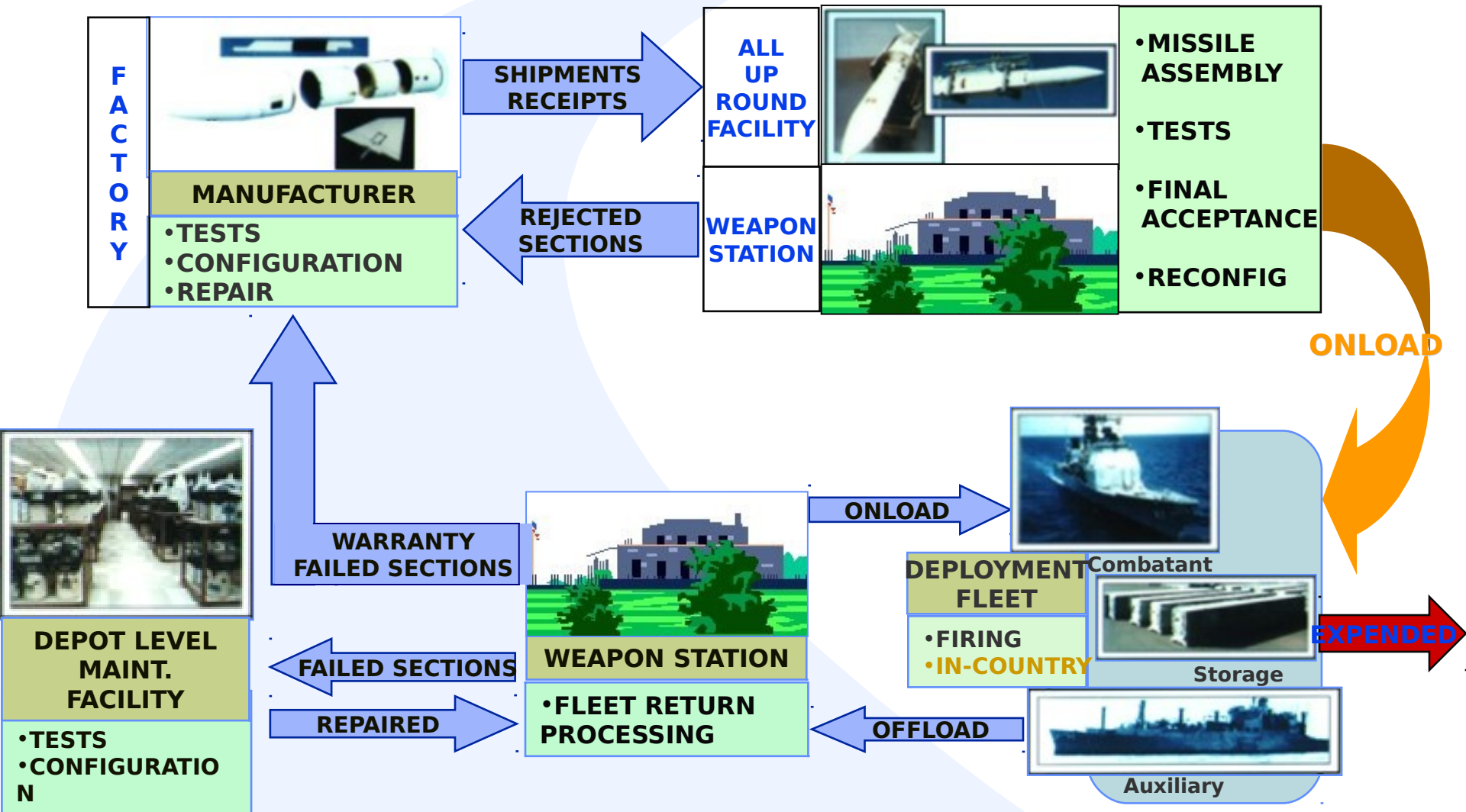
3) Data Analysis -safeguarding

-retrieval

UID makes Data Cheaper

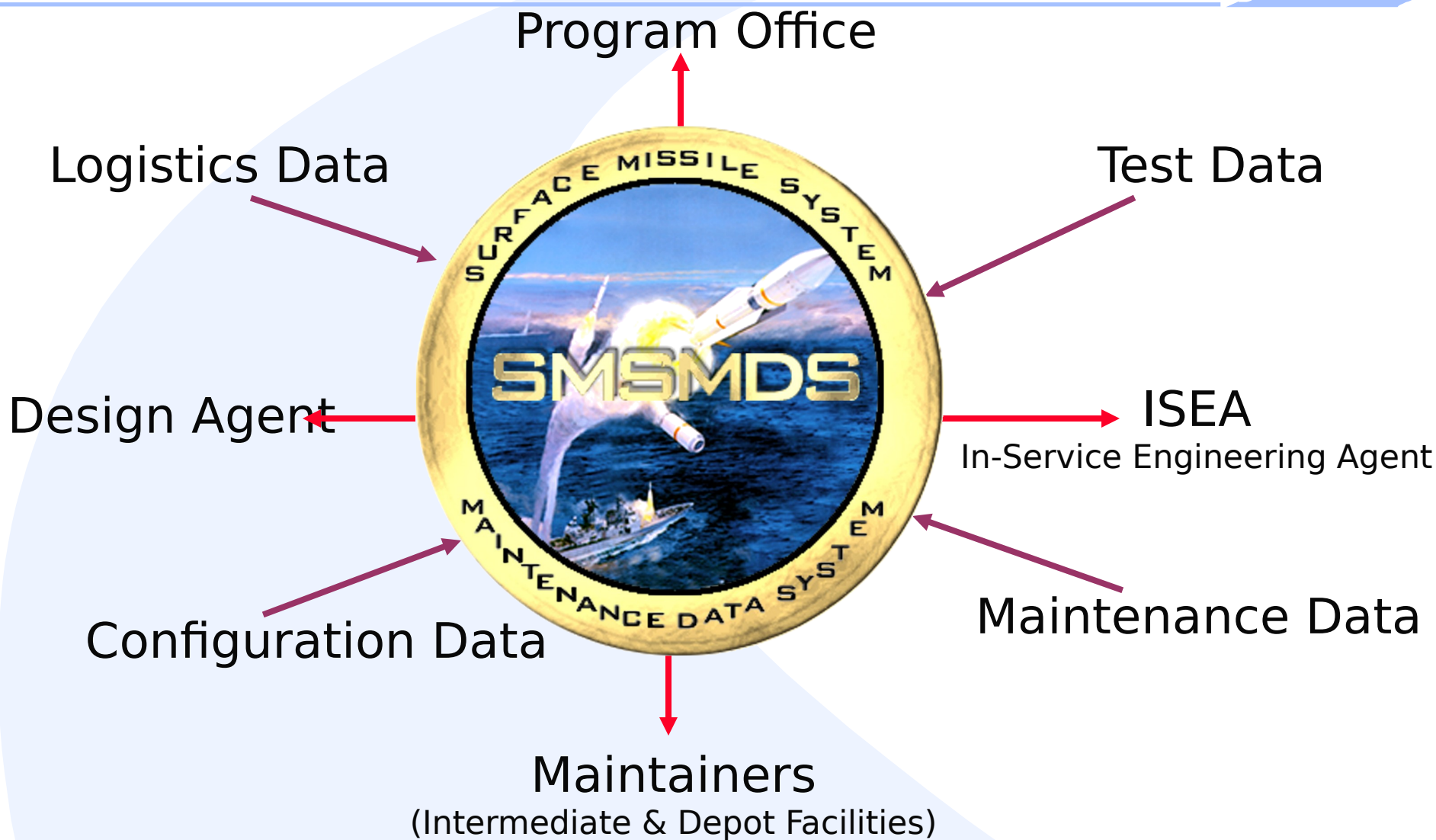
Sometimes seeing an example helps

ASSET MAINTENANCE AND LOGISTICS INFORMATION FLOW

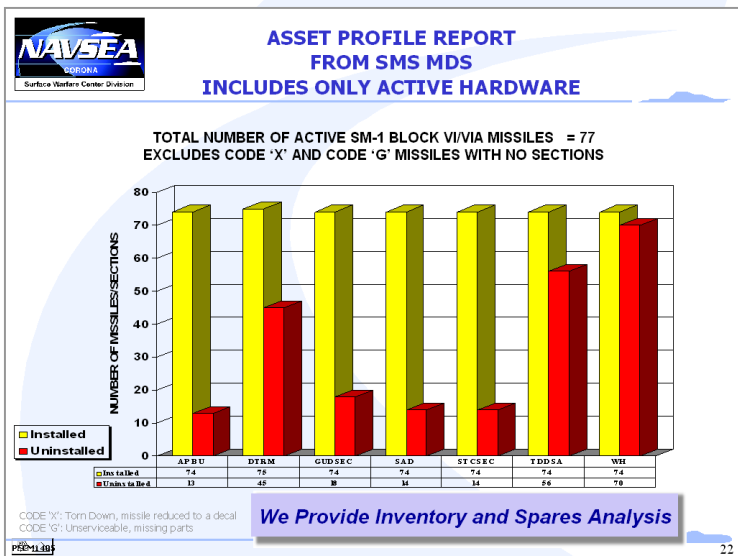


MAINTENANCE DATA COLLECTION THROUGHOUT LIFE CYCLE

Multi-source Maintenance Data Base Used Throughout the Community

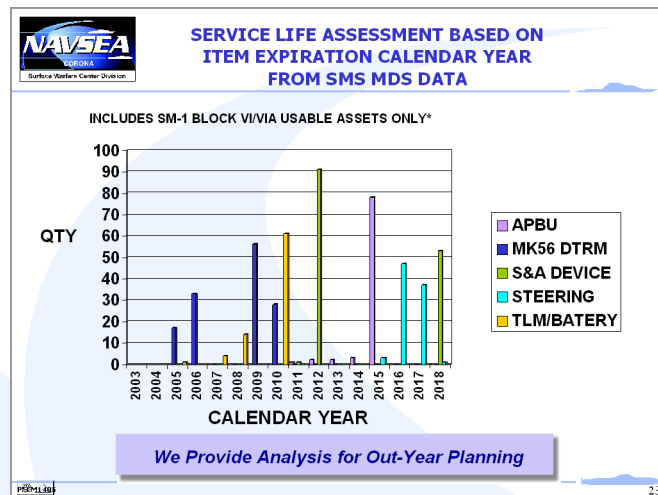
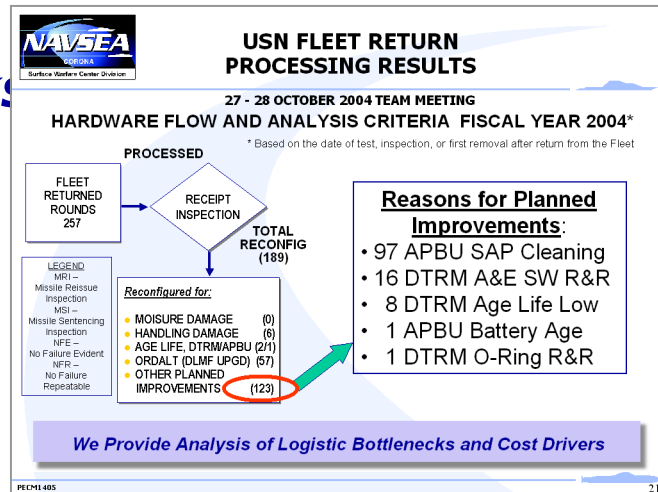


Identification of Bottlenecks and Cost Drivers



Inventory and Spares Analysis

Analysis for Out-Year Planning



Good Data, Good Analysis

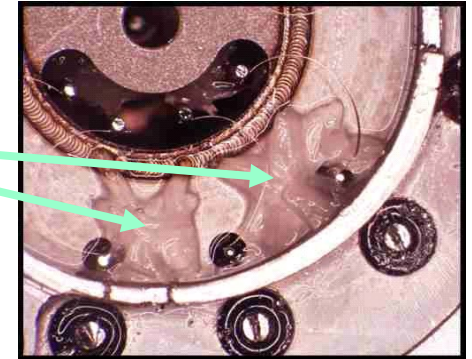
Test Data Analysis:

Found a problem with Gyro-scopes used in STANDARD Missiles



Configuration Data targeted specific units for testing
Location Data found convenient unit to test

Crystallized Deposits



Configuration Data:
Identified affected missiles

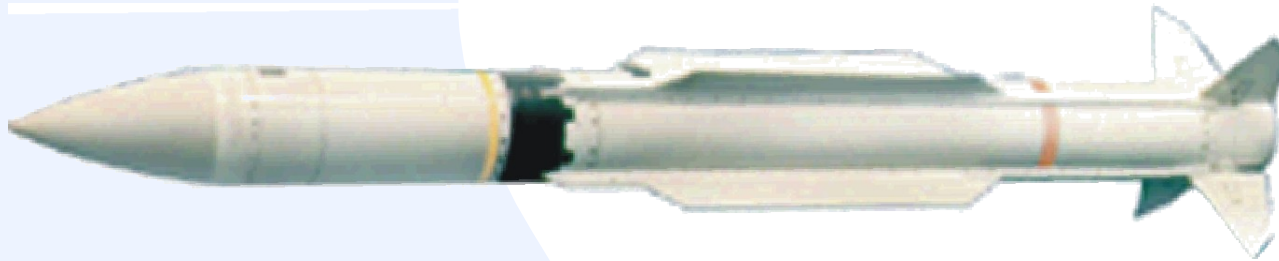
Collateral Damage = none
Casualties = 0
Misfires = 0



Maintenance Database Impact

Problems can be identified for **opportunistic rework** at the I-Level or D-Level.

After problems are identified **segregation** of affected missiles mitigates safety risk.

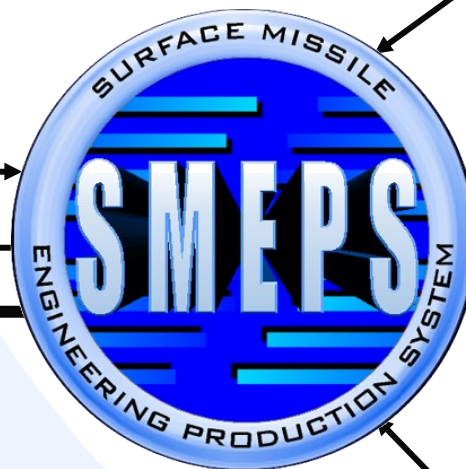


Management can make **better decisions** concerning full-recall, partial-recall, and opportunistic rework when necessary.

ELECTRONIC PROCESS CONTROL & INTERFACE



Detailed
Maintenance
Information
Requests for
Data
Nightly Update
(Future: Real
Time Updates)



ISEA/DA

*In-service Engineering Agents/Design
Agents*

Planners/ Manager

- Audit Trails
- Hardware Flow
- Process Metrics

Maintainers

- Integrated Electronic Technical
Manuals
 - Service Life Extensions
 - Waivers & Deviations
 - Component Details
 - Opportunistic Upgrade
 - Quality Hold Points



NSWC Corona

**Provides instructions
tailored to specific
missiles by serial number**

Enforces QA hold points

**Manages
Certification/Authoriza
tion requirements**

**Returns high quality data
(objective, homogenous,
standardized)**



NWS Seal Beach, CA



Camden, AR



Den Helder, Netherlands



SM-1 Block 5



SM-1 Block 6



SM-1 Block 6A



SM-1 Block 6B



SM-2 Block 2



SM-2 Block 3



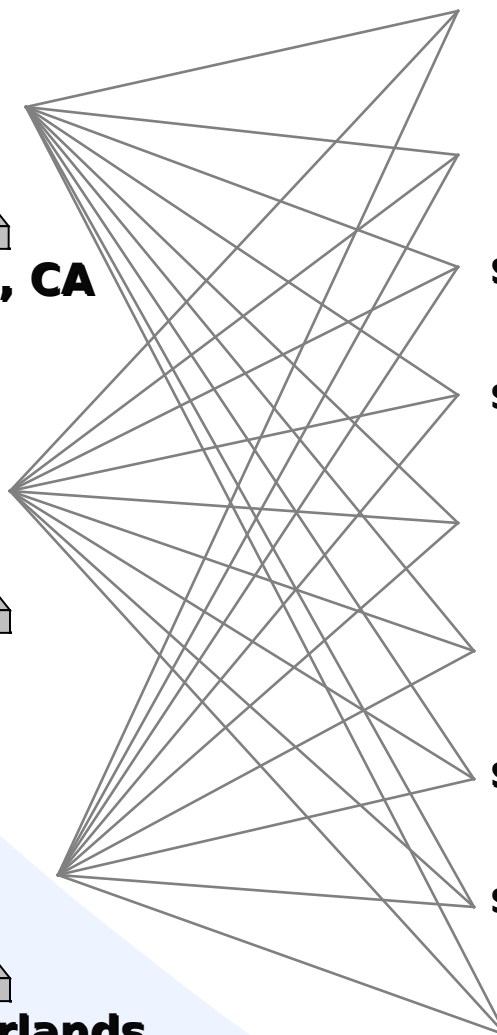
SM-2 Block 3A



SM-2 Block 3B



ESSM



End to End Information Integration

**Statistical Analysis
(Reliability Modeling)**

Engineering Review

DATA MART

Specialized Reports
&
Dashboards

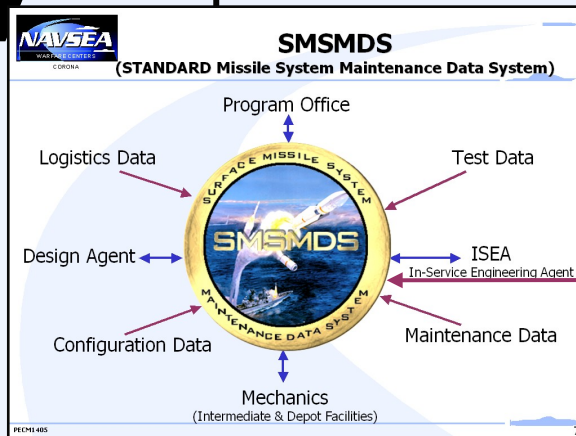
**Task Force
Information
(N3)**

Legacy Databases

Reliability Dashboard

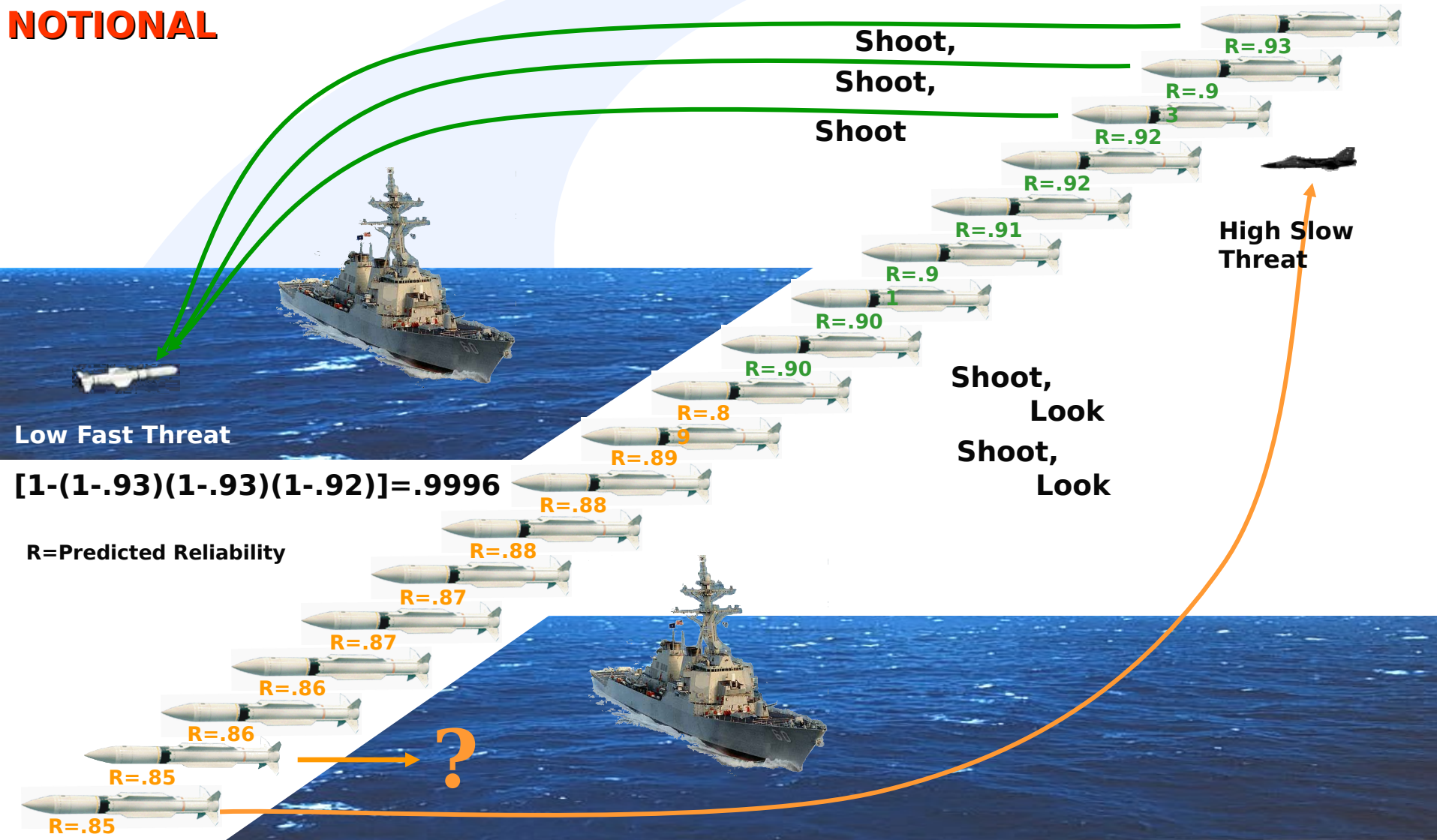
SN	Loc	P(R)
443123	Camp Pendleton	0.98
54687	Camp Lejune	0.98
32456	Camp Pendleton	0.98
789644	Camp Freedom	0.97
56482	Camp Liberty	0.97
443238	Camp Independence	0.96
61654	Camp Pendleton	0.95
311278	Camp Lejune	0.94
332959	Camp Pendleton	0.93
23145	Camp Freedom	0.9
111417	Camp Liberty	0.9
52563	Camp Independence	0.88
645879	Camp Pendleton	0.88
777563	Camp Lejune	0.87
6005	Camp Pendleton	0.86
82236	Camp Freedom	0.82
654321	Camp Liberty	0.8
666879	Camp Independence	0.73


**Knowledge
Based
Decision**



DYNAMIC TACTICS & DOCTRINE

NOTIONAL





QUESTIONS & ANSWERS